

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AT2004/000449

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 3-10 as originally filed/furnished
- pages* 1, 2, 2a received by this Authority on 12.08.2005 with letter of 04.08.2005
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 6 (in part), 7-9 as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-5, 6 (in part) received by this Authority on 12.08.2005 with letter of 04.08.2005
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/3-3/3 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-9</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>1-9</u>	YES
		Claims _____	NO
	Industrial applicability (IA)	Claims <u>1-9</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
V.1	<p>This report makes reference to the following documents:</p> <p>D1: DE 100 10 564 C1 (KOLLEGER, JOHANN) 5 July 2001 (2001-07-05)</p> <p>D2: EP-A-0 197 912 (VORSPANN-TECHNIK GESELLSCHAFT M.B.H) 15 October 1986 (1986-10-15)</p> <p>D3: WO 95/29308 A (EIDGENOESSISCHE MATERIALPRUEFUNGS- UND FORSCHUNGSANS; MEIER, URS; MEIE) 2 November 1995 (1995-11-02)</p> <p>D4: EP-A-0 949 389 (BILFINGER + BERGER; BILFINGER BERGER AG) 13 October 1999 (1999-10-13)</p> <p>D5: DE 25 15 423 A1 (FELTEN & GUILLEAUME FABRIK ELEKTRISCHER KABEL, STAHL- UND KUPFERWERKE A) 13 November 1975 (1975-11 -13)</p> <p>D6: EP-A-0 554 161 (SONDAGES INJECTIONS FORAGES "S.I.F." ENTREPRISE BACHY) 4 August 1993 (1993-08-04)</p> <p>D7: DE 66 01 081 U (REHM G) 3 April 1969 (1969-04-03)</p>		
V.2	<p><u>Proceeding from the prior art, the present application fails to meet the requirements of PCT Article 33(1) for the following reasons:</u></p>		

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V.21 **D2** is considered to be the prior art closest to the subject matter of independent claim 1. D2 (the references in cursive writing are to D2) discloses:

- a) anchoring for at least one prestressed or stressed tensile element 1 (*figure 1; page 1, lines 1-4; page 4, lines 7-15*),
- b) said anchoring having [one or] several wedges 6, 7, an anchor body 2, 4 and a wedge-shaped layer 8 (*figures 1, 7; page 4, lines 7-15; page 5, lines 18-27*),
- c) wherein the tensile force can be transmitted to the anchor body 2, 4 by means of [the wedge or] the wedges 6, 7 (*figure 1*),
- d) and the wedge-shaped layer 8 has a lower modulus of elasticity in relation to the other parts of the anchoring (*figures 1, 7; page 5, lines 18-27; page 1, line 22 - page 2, line 7; claims 1, 2, 3*),
- e) wherein the wedge 7 [and/or the anchor body (2)] is formed by at least two wedge-shaped adjacent layers 8, 9 (*figures 1, 7; page 5, lines 18-27*),
- f) wherein at least one of the layers 8 is made of a material with a lower modulus of elasticity than the material from which the additional layer of the wedge 6 [and/or anchor body (2)] is made (*figures 1, 7; page 5, lines 18-27; page 1, line 22 - page 2, line 7; claims 1, 2, 3*).

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	<p>Thus the subject matter of claim 1 differs from the known anchoring in that</p> <p>g) the greatest thickness of the wedge-shaped layer (22, 32, 34), measured normal to the longitudinal axis (4) of the tensile element (1), lies in the region (5) of the anchoring (7) near the load.</p> <p><u>The subject matter of claim 1 is therefore novel (PCT Article 33(2)).</u></p> <p>The problem to be solved by the present invention can therefore be regarded as that of designing an anchoring "in which the pressure and the shear stresses acting on the tensile element to be anchored are evenly distributed over the clamping length of the tensile element or increase slightly from the region near the load to the region remote from the load and in which the maximum values for pressure and shear stresses are lower than in the known systems" (see description, page 3, first paragraph).</p> <p>This problem is solved by feature g).</p> <p>In D2 and D3, the greatest thickness of the wedge-shaped layers (8 in D1, figure 7; 21 in D3, figure 3) is in the region remote from the load.</p> <p>D1 describes an anchoring for a tensile element made of a fibrous composite material, which anchoring is not in the form of a wedge, but instead shearing forces are transmitted between the tensile element 2 and an anchor bush 4 through</p>

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	<p>an adhesive composite via a cast part 3.</p> <p>Furthermore, D1 does not indicate that one anchoring element has a lower modulus of elasticity than another anchoring element.</p> <p>In D4 and D5, the thickness of the soft layer (5 in D4, figure 1; 7 in D5, figure 2) is constant.</p> <p>D6 and D7 also do not disclose the combination of features of claim 1.</p> <p>The available prior art therefore does not provide any teaching that would prompt a person skilled in the art attempting to solve the technical problem to modify or adapt the anchoring according to D2, taking this teaching into account, in such a way as to arrive at the invention according to claim 1. <u>The subject matter of claim 1 therefore involves an inventive step (PCT Article 33(3)).</u></p> <p>V.22 Claims 2 to 9 are dependent on claim 1 and therefore also meet the PCT requirements for novelty and inventive step.</p> <p>V.23 <u>The subject matter of claims 1 to 9 is industrially applicable (PCT Article 33(4)).</u></p>